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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/086,552

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Robert J. Macomber

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EXAMINER

HYUN, PAUL SANG HWA

ART UNIT

PAPER NUMBER

1797

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/086,552	MACOMBER, ROBERT J.	
	Examiner	Art Unit	
	PAUL S. HYUN	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) 10-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 15-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 March 2008 has been entered.

Claims 1-8 and 10-19 remain pending with claims 10-14 being withdrawn pursuant to a restriction requirement.

Claim Objections

Claim 1 is objected to because of the following informalities:

The limitation “the at lest one” recited in line 8 of the claim should be changed to “the at least one”.

Claim 3-5 and 17-19 are objected to because of the following informalities:

The limitation “comprise” recited in line 2 of each claim should be changed to “comprises”.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims **17 and 19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17 and 19 recite that the filament is a rod and a wire, respectively. Yet, claim 1 recites that the filament comprises a hollow axial shaft.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims **1-3, 7, 8, 15 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Marino (US 6,132,684) in view of Emmitt (US 4,124,122) and Ayres (US 3,952,599).

Marino discloses a sample tube rack 100 comprising three plates (102, 104 and 106) supported by legs 115 and pins 120 and an actuating handle assembly 144 comprising an actuating handle 154. Each plate comprises machined holes 108, and the corresponding holes of the plates are configured to align with one another (see FIG 2). Plate 106 is capable of shifting in a horizontal direction with respect to the other plates to provide a means to secure the sample tubes placed therein (see claim 1). The horizontal movement of plate 106 is accomplished by actuating a manipulating

mechanism in the form of actuating handle 154 to its horizontal engaging position (see lines 35-42, col. 7). An actuating handle assembly 144, which supports the three plates and facilitates the horizontal movement of plate 106 (see lines 47-57, col. 6), is spring biased (see Figs. 10-12) and adjustable by adjusting the positions of blocks 146 (see lines 32-40, col. 6). The rack disclosed by Marino differs from the claimed invention in that Marino does not disclose that the holes for accommodating the sample tubes are chamfered. In addition, Marino does not disclose that the rack is configured to accommodate filaments.

With respect to the chamfered holes, Emmitt discloses a rack adapted to accommodate sample tubes. The surface defining each hole of the test tube rack comprises a groove/chamfer in which is disposed an O-ring. The O-ring is adapted to secure the sample tubes within the rack by frictionally engaging them (see Abstract). In light of the disclosure of Emmitt, it would have been obvious to one of ordinary skill in the art to chamfer the holes of the rack disclosed by Marino so that they would be able to accommodate O-rings that can frictionally engage the sample tubes.

With respect to the filaments, Ayres discloses that it is well known in the art to use glass capillary tube filaments to collect microfluidic volumes of liquid samples. To facilitate simultaneous sampling, a wire rack is used to hold a plurality of capillary tubes, and the rack is lowered into the sample to enable the capillary tube filaments to contact the sample and draw in the sample by means of capillary action (see lines 60-68, col. 4). In light of the disclosure of Ayres and given that the rack disclosed by Marino is designed to accommodate sample collection tubes, it would have been obvious to one

of ordinary skill in the art to alter the dimensions of the rack disclosed by Marino so that it can accommodate capillary tube filaments.

Claims **4 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Marino in view of Emmitt and Ayres as applied to claims 1-3, 7, 8, 15 and 16, and further in view of Buckley et al. (US 5,925,034).

None of Marino, Emmitt and Ayres specifically disclose the use of optical fibers or light guiding capillary tubes to collect a sample.

Buckley et al. disclose a method for collecting a sample by contacting the sample with tip of a hollow tube comprising an optical fiber bundle (see lines 63-67, col. 6 and claim 1). In one application, the tip of the optical fiber bundle can be immersed in serum. In light of the disclosure of Buckley et al., it would have been obvious to one of ordinary skill in the art to alter the dimensions of the modified Marino rack such that it can accommodate the optical fiber bundles disclosed by Buckley et al. The modified rack would enable simultaneous sampling using a plurality of optical fiber bundles.

Claim **6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Marino in view of Emmitt and Ayres as applied to claims 1-3, 7, 8, 15 and 16, and further in view of De Graaff et al. (US 6,146,594).

None of Marino, Emmitt and Ayres specifically disclose the arrangement of the holes of a sample tube rack. However, the hole matrices recited in the claim are well known in the art. De Graaff et al. disclose that the Society of Biomolecular Screening

has standardized well plate arrangements on a variety of plate formats. Some established arrangements include 96 and 384 well plate designs (see lines 15-25, col. 1). In light of the disclosure of De Graaff et al., it would have been obvious to one of ordinary skill in the art to provide the modified Marino rack with 96 or 384 holes in a matrix format so that a large number of filaments can be accommodated in a standardized manner.

Claims **1, 2, 7, 8, 15, 16 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Marino in view of Emmitt and Rainin et al. (US 4,676,377).

Marino discloses a sample tube rack 100 comprising three plates (102, 104 and 106) supported by legs 115 and pins 120 and an actuating handle assembly 144 comprising an actuating handle 154. Each plate comprises machined holes 108, and the corresponding holes of the plates are configured to align with one another (see FIG 2). Plate 106 is capable of shifting in a horizontal direction with respect to the other plates to provide a means to secure the sample tubes placed therein (see claim 1). The horizontal movement of plate 106 is accomplished by actuating a manipulating mechanism in the form of actuating handle 154 to its horizontal engaging position (see lines 35-42, col. 7). An actuating handle assembly 144, which supports the three plates and facilitates the horizontal movement of plate 106 (see lines 47-57, col. 6), is spring biased (see Figs. 10-12) and adjustable by adjusting the positions of blocks 146 (see lines 32-40, col. 6). The rack disclosed by Marino differs from the claimed invention in that Marino does not disclose that the holes for accommodating sample tubes are

chamfered. In addition, Marino does not disclose that the rack is configured to accommodate pipette tips.

With respect to the chamfered holes, Emmitt discloses a rack adapted to accommodate sample tubes. The surface defining each hole of the test tube rack comprises a groove/chamfer in which is disposed an O-ring. The O-ring is adapted to secure the sample tubes within the rack by frictionally engaging them (see Abstract). In light of the disclosure of Emmitt, it would have been obvious to one of ordinary skill in the art to chamfer the holes of the rack disclosed by Marino so that they would be able to accommodate O-rings that can frictionally engage the sample tubes.

With respect to the pipette tips, it is well known in the art to store pipette tips in racks. Rainin et al. disclose a rack for storing pipette tips (see Fig. 1). It would have been obvious to one of ordinary skill in the art to alter the dimensions of the modified Marino rack such that it can accommodate pipette tips so that pipette tips can be stored in an orderly manner.

Response to Arguments

Applicant's arguments with respect to the art rejections have been considered but they are moot in view of the new grounds of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL S. HYUN whose telephone number is (571)272-8559. The examiner can normally be reached on Monday-Friday 8AM-4:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797

/Paul S Hyun/
Examiner, Art Unit 1797